

CLAIMS

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1. A feedthrough arrangement, comprising:  
a terminal for conducting electrical current;  
an insulating member positioned around a portion of the terminal, the  
insulating member being in sealing engagement therewith; and  
a sleeve member positioned around the insulating member, the sleeve member  
being in sealing engagement with the insulating member.
2. The feedthrough arrangement of claim 1, wherein the terminal comprises  
at least one of Ti-6Al-4V, Ti-6Al-4V ELI (extra low interstitial), and Ti-3Al-2.5V.
3. The feedthrough arrangement of claim 1, wherein the insulating member  
comprises glass.
4. The feedthrough arrangement of claim 3, wherein the glass comprises Cabal-  
12 glass.
5. The feedthrough arrangement of claim 4, wherein the Cabal-12 glass  
comprises about 40.0 mole %  $B_2O_3$ , 20.0 mole %  $Al_2O_3$ , 20.0 mole %  $MgO$  and 20.0  
mole %  $CaO$ .
6. The feedthrough arrangement of claim 1, further comprising:  
a housing having an opening, the sleeve member being coupled to the housing  
at the opening, and the housing comprising a first environment within; and  
wherein the terminal extends from the first environment within the housing to  
a second environment outside of the housing.
7. The feedthrough arrangement of claim 6, wherein the terminal conducts  
electrical current between the first environment and the second environment and the  
glass seal member provides isolation between the first and second environments.

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8. The feedthrough arrangement of claim 6, wherein the sleeve member is welded to the housing at the opening of the housing.
9. The feedthrough arrangement of claim 6, wherein the housing and sleeve member comprise stainless steel.
10. The feedthrough arrangement of claim 9, wherein the housing and sleeve member comprise 304L stainless steel.
11. The feedthrough arrangement of claim 6, wherein the housing comprises an electrochemical cell.
12. The feedthrough arrangement of claim 6, wherein the housing comprises a battery.
13. The feedthrough arrangement of claim 12, wherein the battery comprises a lithium-ion battery.
14. The feedthrough arrangement of claim 6, wherein the housing is a component of an implantable medical device.
15. The feedthrough arrangement of claim 14, wherein the implantable medical device comprises at least one of a pacemaker, cardioverter, defibrillator, neurological muscle or brain stimulator, and a drug administering device.
16. A housing having an opening and including a first environment within the housing, comprising:  
a feedthrough arrangement, wherein the feedthrough arrangement includes:  
a titanium alloy terminal for conducting electrical current between the first environment within the housing and a second environment outside of the housing;  
an insulating member positioned around a portion of the terminal and in sealing engagement therewith; and

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a sleeve member positioned around the insulating member and in sealing engagement with the insulating member, the sleeve member being coupled to the housing at the opening thereof.

- 5        17. The housing of claim 16, wherein the titanium alloy terminal comprises at least one of Ti-6Al-4V, Ti-6Al-4V ELI (extra low interstitial), and Ti-3Al-2.5V.
- 10      *Sue A*      18. The housing of claim 16, wherein the insulating member comprises glass.
- 15      19. The housing of claim 18, wherein the glass comprises Cabal-12 glass.
- 20      20. The housing of claim 19, wherein the Cabal-12 glass comprises about 40.0 mole % B<sub>2</sub>O<sub>3</sub>, 20.0 mole % Al<sub>2</sub>O<sub>3</sub>, 20.0 mole % MgO and 20.0 mole % CaO.
- 25      21. The housing of claim 16, wherein the sleeve member is welded to the housing at the opening of the housing.
- 30      22. The housing of claim 16, wherein the housing and sleeve member comprise stainless steel.
23. The housing of claim 22, wherein the housing and sleeve member comprise 304L stainless steel.
24. The housing of claim 16, wherein the housing comprises an electrochemical cell.
25. The housing of claim 16, wherein the housing comprises a battery.
26. The housing of claim 25, wherein the battery comprises a lithium-ion battery.
- 30      27. The housing of claim 16, wherein the housing is a component of an implantable medical device.

28. The housing of claim 27, wherein the implantable medical device comprises at least one of a pacemaker, cardioverter, defibrillator, neurological muscle or brain stimulator, and a drug administering device.

29. A method for providing environmental isolation between a first environment within a housing and a second environment outside of the housing, comprising:  
providing a titanium alloy terminal for conducting electrical current between the first environment and the second environment;  
providing an insulating member positioned around a portion of the terminal and in sealing engagement therewith; and  
providing a sleeve member positioned around the insulating member and in sealing engagement with the insulating member, the sleeve member being coupled to the housing at an opening thereof.

30. The method of claim 29, wherein providing an insulating member further comprises:  
providing a Cabal-12 glass member positioned around a portion of the terminal and in sealing engagement therewith.

31. The method of claim 29, wherein providing a titanium alloy terminal further comprises:  
providing a titanium alloy terminal for conducting electrical current between the first environment and the second environment, the titanium alloy terminal including one of Ti-6Al-4V, Ti-6Al-4V ELI (extra low interstitial), and Ti-3Al-2.5V.

32. The method of claim 29, wherein the housing comprises a battery.

33. An apparatus, comprising:  
a titanium alloy terminal for conducting electrical current between a first space within a container and a second space outside of the container;

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an insulating member positioned around a portion of the terminal and in sealing engagement therewith; and

a sleeve member positioned around the insulating member and in sealing engagement with the insulating member;

wherein the insulating member isolates the first and second spaces.

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10 34. The apparatus of claim 33, wherein the titanium alloy terminal comprises at least one of Ti-6Al-4V, Ti-6Al-4V ELI (extra low interstitial), and Ti-3Al-2.5V.

35. The apparatus of claim 33, wherein the insulating member comprises Cabal-12 glass.

36. The apparatus of claim 33, wherein the container encases a battery.

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